



3R - TOWARDS GREEN EDUCATIONAL CAMPUSES THROUGH SMART PAPER POLICIES

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ABSTRACT

Educational Campuses across India and also abroad should play a pivotal role in creating and demonstrating successful sustainability programs. When it comes to recycling of vital resources, which is necessary to protect the climate and reduce waste, campuses make a huge impact. Paper is one of those necessary resources. But unfortunately, it is often overlooked. However, the way we manufacture, use, dispose of, and purchase paper can have dramatic impacts on the global climate, and the overall sustainability of our lifestyle. The paper is a report submitted to the management regarding the paper management and ways of reduce, reuse and recycle of paper within the educational campuses for sustainability and one step towards green campus.

KEY WORDS: Reduce, Reuse, recycle, Sustainability.

Introduction:

Though steady progress has been made, we still have a long way to go. Today in the United States only 50% of office paper is recovered for recycling. The majority of the rest is lost to landfills or incinerators. This is not only a significant waste of a valuable resource, it is drastically adding to our global pollution problem, especially since audits conducted on campuses have shown that the waste stream is made up of 40% to 50% paper and paper product waste.

To create the greatest impact in climate protection, waste reduction, and cost savings it is imperative that institutional paper policies must reflect significant advancement toward recovering the majority of used students work sheets, office paper for efficient and effective recycling, reducing the overall consumption of paper and paper products, and purchasing the highest content recycled paper possible for your campus. Recycling may generally be considered as a key strategy for alleviating the pressures of society on the environment. Recycling is to use waste paper products in the production of paper as raw material. Therefore, environmental pollution and deforestation can be prevented. To produce paper, waste paper can be mixed with other raw material or with the new technology; solely waste paper can be used to produce new paper. Also, fibres which are extracted from waste paper are now vital due to the increasing demand, limited forest resources and environmental pressures. Modern paper industry procures raw material largely from waste paper (Imamoglu et al. 2005).

Within educational campuses, majorly it is Students and the administrative office which produce paper waste. When it comes to Engineering and Architecture campuses in India particularly, the paper wastage is tremendous (Hiniker, 2005). Many schools in Delhi have started practicing re-use and recycling paper such as- Schools in Delhi use TARA PaperMek technology Delhi Public School, Dwarka/Noida BalBharti School, Pitampura Kendriya Vidyalaya, Badarpur BalBhawan Public School, MayurVihar II GyanMandir Public School, Naraina Sanskrit School, Chanakyapuri DAV Public School, Pritampura Ryan International School, VasantKunj G.D.Goenka School, VasantKunj Air Force BalBharti School, Lodhi Road Amity International School, MayurVihar Mother Teresa School, PreetVihar Springdales School, DhauLaKuan St.Marks Sr. Sec. School, Janakpuri

Methodology:

To make this 3R paper policy a success, a root level work is expected. i. e. from creating and developing awareness within every paper user within the campus. As an extension of academic curriculum of Third year students of Architecture, under the domain of Appropriate technology, the following project was undertaken.

In the present study, a careful collection of facts was undertaken by the researcher to ensure the validity of the facts. This study was carried out in three steps involving reconnaissance, sampling, followed by interpretation of statistics. The domain of study area was considered as Architecture and Engineering degree college students of PIADS. In this study, primary data collection was carried out by using a research instrument i.e. a structured questionnaire. The process of developing the research instrument for this study was based on generally accepted principles of instrument design. Moreover, the questionnaire was used after establishing its validity and reliability. For this purpose, a data obtained from the initial survey i.e. pilot study was used. The sample size was 350 students from various levels of degree programme. Data collection was done by using survey meth-

odology. Survey questionnaires or interview schedules are typically used for feedback research to determine the current status or "situation," or to estimate the distribution of characteristics in a population. The questionnaire was prepared by keeping the objectives of the study in mind.

Selection of Measurement Scales

In the present study, Fixed Response (Qualitative) Rating scale was used. This type of scale was selected as fixed response questions are quick to answer, which facilitates analyzing the results.

The Reliability and Validity of the data is also considered.

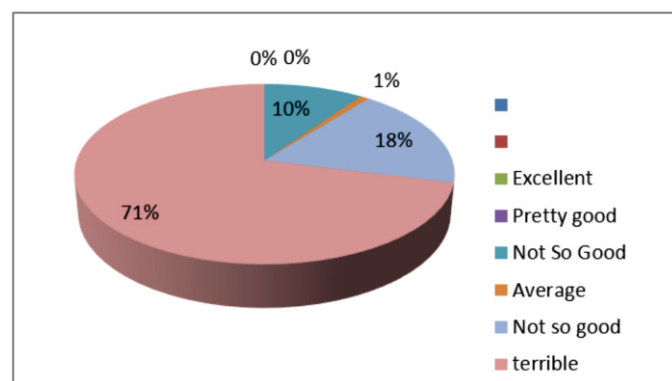
Statistical Procedure Employed and Significance Level

The data characteristics (descriptive statistics) such as Frequency, Mode, Percentage, Mean, Standard Deviation, etc. were determined. The data was analysed using SPSS 18.0 Software. The significance level was chosen to be 0.05 (or equivalently, 5%).

Results and Discussions

1. Students Rating the quality of recycling paper in campus

Excellent	0
Pretty good	0
Not So Good	23
Average	2
Not so good	43
terrible	167

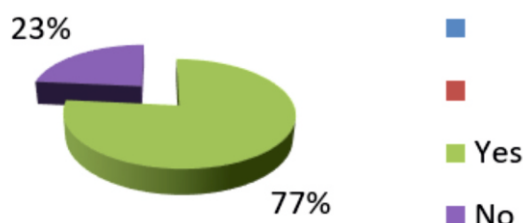


From the above, the maximum students from various levels of degree course are of the opinion (71%) that the status of recycling a paper in campus is terrible.

2. Satisfied with current system of using the paper

Yes	268
No	82

Satisfied with current system of using the paper

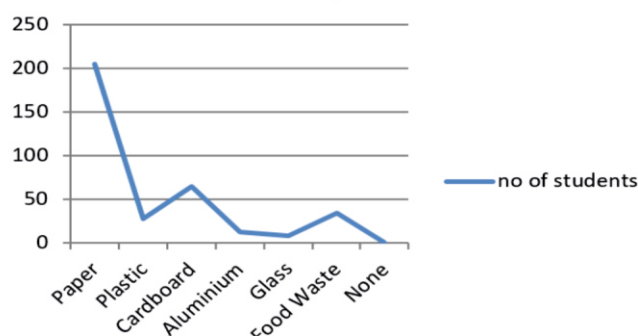


From the response, 77% students are not satisfied with the system of using the paper for submissions, journals writing, submission of drawing sheets at all stages.

3. The material to be recycled most in academic campus

Material	no of students
Paper	205
Plastic	27
Cardboard	64
Aluminium	12
Glass	8
Food Waste	34
None	0

The material to be recycled most in academic campus

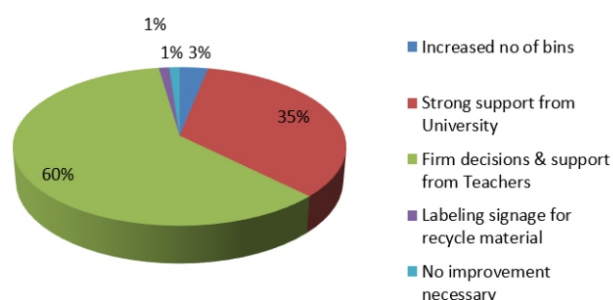


Priority wise, it is paper to be recycled followed by cardboard and aluminium.

4. Obstacle if any keep you from recycling on campus

No Bins	13
Bins are full	8
Unsure if products are recyclable	0
Don't know where to recycle	113
Too time consuming	9
Did not know if PIADS recycles	204
Don't care about recycling	3

Encouragement to recycle



Results and Analysis

After entering the data into a filterable spreadsheet, we looked for distinguishable relationships between different sets of data. The first data point is that of the total 350 surveyed, 221 people concluded they recycle at least one material consistently. That's a high rate for recycling in a student's community. Two thirds of those surveyed recycle cardboard and paper, and more than half recycle food material and plastic. These are materials which are frequently used in the colleges, yet not all buildings can provide locations for students to recycle these materials.

Students are generating recyclable content in their daily lives, not just in the classroom. Of the 350 students surveyed, 270 suggested there needs to be an increase in the visibility and quantity of recycling bins on campus and more support from the University and the faculty.

The data also show that students would prefer to receive information about where and what to recycle via Facebook and the college Website. This response provides important information on how best to deliver information to your target audience.

Conclusions, Recommendations and Discussions

The analysis of data has shown that almost 90% of those surveyed already ready to recycle, whether at home or on campus, and the biggest obstacle to recycling on campus is the lack of recycling system, bins and the lack communicating the importance of recycling at PIADS. There is a link missing in the chain of students continuing their recycling habits on campus. The Facebook page could contain updates on attaining PIADS's goal of a 40% recycling rate, and could provide facts on the amount of waste we accumulate in a given period of time and how the waste can effect or possibly benefit the school if recycled properly. Another recommendation would be to host sustainability competitions and post updates on Facebook page, or website.

Most importantly, there must be a recycling unit at campus, preferably PIADS campus as maximum paper waste is done through Architecture programme.

The causes of excessive paper waste on college campuses need to be examined. There are two causes: first, the ease of printing and second, the misuse of technology. First, the ease of printing highly contributes to this problem. Since paper is "not a rare resource, and we are not charged the true value of the papers that we do print, we do not see a problem. It is so easy to hit the print button and collect your print jobs, not thinking about the true costs, such as the recycling of the paper, the toner, the trees that needed to get cut down in order for this paper to be made"

The second cause of paper waste is the misuse of technology. When computers first started coming out, it was theorized that society would move towards a paperless world. However, this theory did not prove to be true. The increase in information available in full text on the Internet and through subscription databases has greatly increased the demand for printing.

Due to the increase in information, society prints not only for personal pleasure, such as emails or newspaper articles, but students are also forced to print homework assignments and journal articles. Everyone is part of the problem. Reducing paper is not the only thing individuals can do; they can also reuse the paper they have printed. One way to reuse paper is to use the blank sides of unneeded single-sided copies for printing drafts or taking notes.

After looking at the problems, the causes, and the solutions to paper waste on college campuses, it is easy to see that improving paper efficiency does not involve sacrificing access to the information on the paper. There is nothing wrong with using paper; the user just needs to be able to reduce the paper waste, as well as reuse the paper that has already been printed. The problem of paper waste is serious, but it is one everyone can very easily help to solve by doing his or her part.

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